Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Wireline Competition Bureau	)	GN Docket No. 18-231
	)	
The State of Fixed Broadband Competition	)	

COMMENTS OF OOKLA

Ookla® respectfully submits these comments in response to The Federal Communications Commission Wireline Competition Bureau's (the Bureau) Public Notice that requests information regarding the Commission's analysis of fixed broadband competition for inclusion in the Communications Marketplace Report. This Public Notice requests comment on data sets to help evaluate the state of fixed broadband competition.[1]

Broadband connectivity affects every aspect of our society — education, economic development, productivity, innovation, equality and quality of life improve with increased access to broadband internet services. The availability of broadband networks and the quality of consumer experiences are leading indicators of the health of the nation's broadband infrastructure. Recognizing the essential role that broadband connectivity plays in the United States' economic growth and social advancement, it is vital that the information used by the FCC and other agencies is of the highest quality. Although progress has been made to improve data sets used to evaluate fixed broadband availability, there are still considerable untapped opportunities that will benefit public policy decisions.

[1] *Wireline Competition Bureau Seeks Comment on the State of Fixed Broadband Competition*; Public Notice DA No. 18-784; GN Docket No. 18-231.

Ookla supports the Bureau's and the industry's objectives to improve the availability and quality of fixed broadband networks. As the global leader in internet testing, data and analysis, Ookla fully appreciates the difficulty in collecting comprehensive network availability data and welcomes the opportunity to offer suggestions on how to improve the quality and accuracy of broadband data used by the Bureau.

I. OOKLA IS A TRUSTED SOURCE TO HELP INFORM THE COMMUNICATIONS MARKETPLACE REPORT

Given the complexity of the U.S. telecommunications landscape, multi-layered, high-quality data sets are required to properly analyze the broadband marketplace; no single source or type of information can capture the entire landscape. Traditional fixed network coverage and advertised speeds sourced through FCC Form 477 provide foundational layers of intelligence. However, to broadly assess the health of the marketplace, considerably deeper data sets and analyses are required.

SPEEDTEST

Speedtest®, Ookla's flagship platform[2], is the most accurate way to measure internet performance and accessibility today. Ookla was founded in 2006 as a spinoff company of an internet service provider (ISP). This is an important distinction when evaluating companies who can support the Bureau's informational needs. Speedtest was purpose-built to ensure that ISPs can transparently communicate service quality, while creating mechanisms for customers to evaluate broadband performance.

[2] *Speedtest applications are currently available for the web at Speedtest.net and for download on iOS, Android, macOS, Windows, Google Chrome, Apple TV, and an array of customer premises equipment (CPE) including routers and gateways.*

Today, Speedtest is the global standard for fixed and mobile network performance measurements with approximately 10 million unique daily tests across the globe, with 1.3 million of those initiated in the United States by some of Speedtest's more than 100 million active U.S. users. The platform also supports accurate measurement of multi-gigabit connections. Since its founding in 2006, Speedtest users have performed an unparalleled total of more than 20 billion consumer-initiated tests.

The Speedtest platform includes a network of more than 7,200 test servers in 190 countries, with over 1,100 test servers deployed in the United States. The geographic distribution of these servers provides more accurate results and is one differentiating factor of Ookla's platform. Speedtest is available across an array of internet touchpoints, with consistent methodologies to deliver the most accurate results. Because Speedtest is consumer-initiated, the results are not academic or synthetic; the network performance results are occurring when and where Speedtest users are actually using the internet, providing unprecedented data volumes.

Speedtest results provide a deep evaluation of the internet experience with detailed metadata about the type of network, performance, location, device and radio frequency environment when applicable. The use of Speedtest desktop and mobile applications, in addition to browser-based tests, provides higher quality location information that other online-only measurement services.

SPEEDTEST EMBEDDED

Ookla offers embedded Speedtest solutions to extend measurement capabilities to routers and other network appliances, with active integrations on several flagship brands of consumer routers and gateways, an Apple TV application and a Google Chrome browser extension. These

demonstrate Ookla's ongoing commitment to creating large and diverse data sets, expressly intended to provide a holistic view of the market.

II. OOKLA HAS INVESTED IN MEASURING CONSUMER NETWORK EXPERIENCES, BEYOND JUST BROADBAND PERFORMANCE INTELLIGENCE

Ookla is not satisfied with just measuring internet performance millions of times per day on its websites and native applications. Regardless of how broadband is defined, the Bureau should seek out more granular, timely data to identify existing gaps in fixed connectivity and ensure that public investment maximizes Americans' access to the internet. However, the Bureau should avoid focusing too narrowly on "broadband availability" and consider important indicators about consumers' broadband experiences. Ookla is currently developing several new products to understand consumer internet experiences beyond internet network performance.

SPEEDTEST LIVE

Speedtest Live is another example of Ookla's investment in measuring internet performance with consumer experiences in mind. Speedtest applications have historically measured how the respective device is interacting with the fixed or mobile network. Speedtest Live measures how each device is interacting with content being delivered. For example, we will be able to answer questions like: 1) how do services, applications and content providers perform on varying fixed broadband networks?; 2) are certain networks providing better/worse experiences with certain content providers relative to overall internet network performance?; 3) how do device chipsets and compute characteristics impact the quality of video consumption?; 4) what is the experience of an Android tablet using Netflix over a Wi-Fi network connected to a fixed broadband network (versus an iPad)?; 5) which broadband networks are rate-limiting YouTube traffic and how does that impact the consumer experience?

These examples only scratch the surface of the consumer insights available from the forthcoming Speedtest Live.

SPEEDTEST HOME

In addition to measuring how a device is interacting with the internet and evaluating how applications and content providers are performing on devices, Speedtest Home will measure the performance of the home internet itself, whether wired via ethernet, or using Wi-Fi. Smart TVs, thermostats, refrigerators, security and lighting systems rely on Wi-Fi or ethernet networks to access the internet and perform their functions. Speedtest Home will provide visibility into the performance of each device on its LAN, whether they are connected over Wi-Fi or ethernet, learning how devices are communicating with the internet and one another in a way that can accelerate problem resolution and improve customer satisfaction with their ISP and their home networking equipment.

SPEEDTEST AUDIENCE

Simply comparing advertised versus received network speeds is not the only indicator of customer satisfaction. The objective of Speedtest Audience is to give consumers a voice to communicate their perceptions. In addition to information previously discussed herein, when the Bureau evaluates the entire marketplace, it should consider how satisfied the American consumer is with their telecommunications services. Speedtest Audience will create next-level market research and correlate customer satisfaction with network performance metrics to provide unique insights into how the network performance of the networks impacts consumer perceptions.

ADDITIONAL INVESTMENTS

In addition to distributing Speedtest across different platforms, adding new and exciting features to expand the value to our users and clients, extending performance monitoring within

home networks, measuring the performance of content delivery services and marrying consumer perceptions with Speedtest results, Ookla has begun strategically investing in companies that can help it grow.

In August 2018, Ookla acquired Downdetector, the leading source for real-time status and outage information for thousands of services and websites around the world. Downdetector's commitment to providing open, transparent information about the state of online services echoes Ookla's focus on illuminating the speed and performance of networks around the world for the benefit of those who use them.

Ookla has also recently acquired Mosaik, a pioneer in wireless network intelligence, coverage and mapping solutions. The combination of Ookla and Mosaik is highly complementary, opening up exciting new data and visualization capabilities and reinforcing a joint commitment to providing the best network availability and performance insights to consumers, enterprises and governments.

III. CONCLUSION

Existing data collection efforts do not paint a sufficiently accurate picture of broadband availability; additional data sets and collection mechanisms must be considered to improve the quality and depth of these data collections. Ookla is trusted by mobile and fixed broadband service providers who build and manage networks, consumers who use them, and governments that incentivize and regulate them. If the FCC embraces the capabilities of private data companies, including some of the new approaches proposed herein, it will promote sound broadband policymaking, help maximize taxpayers' return on investment and improve the experiences of U.S. consumers. Engaging with experts and making small investments in high-quality data (relative to the amount of direct investment in broadband expansion) will yield the

best results. Ookla welcomes every opportunity to help the Bureau improve the quality and accuracy of the nation's fixed broadband availability and ensure that consumer experiences are fully understood.

Respectfully submitted,

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